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February 2014

Online at <http://mpra.ub.uni-muenchen.de/53431/>

MPRA Paper No. 53431, posted 6. February 2014 14:11 UTC

The Possible Effects of Transatlantic Trade and Investment Partnership and Trans-Pacific Partnership on Chinese Economy^{*}

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Abstract

The failure to advance the multilateral trade negotiations of the World Trade Organization (WTO) was a disruption for the international trading system. Alternatively, many countries have commenced to establish bilateral and regional Free Trade Agreements (FTA). Among those agreements the Transatlantic Trade and Investment Partnership (TTIP) and Trans-Pacific Partnership (TPP) are agreements with members from across the Atlantic and the Pacific respectively. This note focuses on the impacts of these agreements on Chinese economy under three scenarios. The effects of various scenarios on Chinese GDP and export are studied by using the Global Trade Analysis Project (GTAP) database and a general equilibrium model. To the best of our knowledge, we are the first to analytically analyze the economic impacts of the TTIP on Chinese economy. In all of the scenarios the TTIP is realized and China never becomes a member of it. In the first scenario the TPP is not realized. In the second scenario the TPP is realized and China is excluded from it. In the last scenario the TPP is realized and China is included in the initiative. The results suggest that when only TTIP is realized, Chinese economic variables are negatively affected. When both TTIP and TPP are realized and China is excluded, the combined damage in Chinese economy is higher than the damage of TTIP alone. On the other hand, inclusion of China in the TPP affects its economic variables positively despite the negative effects of the TTIP. In other words, positive impacts of participation of China in the TPP compensate for the negative impacts of the TTIP.

Keywords: Free Trade Agreements, Transatlantic Trade and Investment Partnership, Trans-Pacific Partnership, China.

JEL Classification: F13, F15

^{*} The views expressed herein are solely of the authors and do not represent those of the Central Bank of the Republic of Turkey or its staff.

1. Introduction

In the second half of the 1980s an unprecedented increase in foreign direct investment, a revolution in information and communication technology initiated a new phase of interdependence called globalization (Ostry, 1998). Along with these developments that eased global economic and trade relations, countries seek to reduce the obstacles to international trade and hence ensure their market power. In this context, the General Agreement on Tariffs and Trade (GATT) and its successor organization the World Trade Organization (WTO) paved the way to create a strong, opulent and liberal international trading system, and thus contributed to global economic growth. Nevertheless, these developments are deadlocked with the Doha round of WTO negotiations for multilateral trade, and hence a need for bilateral and regional trade negotiations arose to promote trade liberalization. Accordingly, this need has led to the establishment of bilateral and regional Free Trade Agreements (FTAs). FTAs eliminate tariffs, quotas, and non-tariff barriers between the member countries so that members could gain trading advantages and preserve their economic interests.

For the US, apart from the deadlocked multilateral trade negotiations, a reason for signing FTA is that Asia's and particularly China's rise in world trade caused a loss in US' competitiveness and it seeks remedies to strengthen its competitive position. A significant number of FTAs by Association of Southeast Asian Nations (ASEAN)¹ and China exclude the US which could reduce its trade and investment share. In return, Transatlantic Trade and Investment Partnership (TTIP) and Trans-Pacific Partnership (TPP), both dominated by the US, are initiatives that would bypass China. The USA aims strengthening its competitive position in the international trade arena by these agreements which may redefine global trading rules.

In 2013 February the USA and EU announced their intention to launch negotiations on TTIP. They cooperate to sign the TTIP with the aim to establish a comprehensive trade and investment partnership as each other's most influential trade and investment partner. Since the tariffs in the US and EU are already low, the TTIP will focus on reducing non-tariff barriers of the US and EU which differ from each other significantly. The TTIP, whose negotiations started on July 2013, would be a comprehensive agreement addressing non-tariff issues and contributing to the development of global trade and investment rules. Serving to the TTIP negotiations, the EU-US High Level Working Group on Jobs and Growth identifies policies and measures that will eventually support mutually beneficial job creation, economic growth, and competitiveness across the Atlantic (European Commission, 2013).

¹ ASEAN countries: Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam.

The US is also negotiating an Asia-Pacific trade agreement, the TPP, with eleven other countries². The negotiations of the TPP have started in 2002. The USA declared its intent to participate in the negotiations in 2008 and affirmed its engagement in 2009. TPP countries altogether comprise the largest export market for the United States. With TPP, the US will further develop trade and investment relations with Asia-Pacific. Similar to the TTIP, the TPP would also contribute to the development of global trade and investment rules. The agreement aims to support trade and investment among the TPP member countries, promote innovation, economic growth and development, and support the creation and retention of jobs.

Given the substantial share of their member countries in the world trade, the TTIP and TPP would affect the economies of member countries as well as non-member countries, and could represent comprehensive FTAs across the Atlantic and the Pacific respectively. China could not take part in TTIP, and despite being a big country in the Asia-Pacific she has not participated in the TPP yet. Thus, along with these agreements' effects on member countries, the effects on China should be analyzed since it is expected to be heavily affected from both agreements.

This study analyzes the possible quantitative effects of the TTIP and TPP on Chinese economy under three different scenarios. To the best of our knowledge, we are the first to analytically analyze the economic impacts of the TTIP on Chinese economy. In all of the scenarios the TTIP is realized and China never becomes a member of it. In the first scenario the TPP is not realized. In the second scenario the TPP is realized and China is excluded from it. In the last scenario the TPP is realized and China is included in the initiative. Global Trade Analysis Project (GTAP) Data Base and its general equilibrium model are used in order to analyze the effects of each scenario on GDP and export of China.

GTAP Data Base is commonly used to assess the effects of FTAs on member and non-member countries. The GTAP is a global network of researchers and policy makers conducting quantitative analysis of international policy issues (Walmsley, Aguiar, & Narayanan, 2012). The GTAP Data Base is utilized computable general equilibrium models and economic analysis of global policy issues related to trade.

The results obtained by using GTAP are that when TTIP is realized, Chinese economic variables are negatively affected. When both TTIP and TPP are realized and China is excluded, the combined damage in Chinese economy is higher than the damage of TTIP alone. Nevertheless, inclusion of China in the TPP affects its economic variables positively despite the negative effects of the TTIP. In other words, positive impacts of participation of China in the TPP compensate for the negative impacts of the TTIP.

The rest of the paper's structure is as follows. In Section 2, China's trade statistics and latest status in FTAs are summarized. In Section 3, we provide the quantitative results of

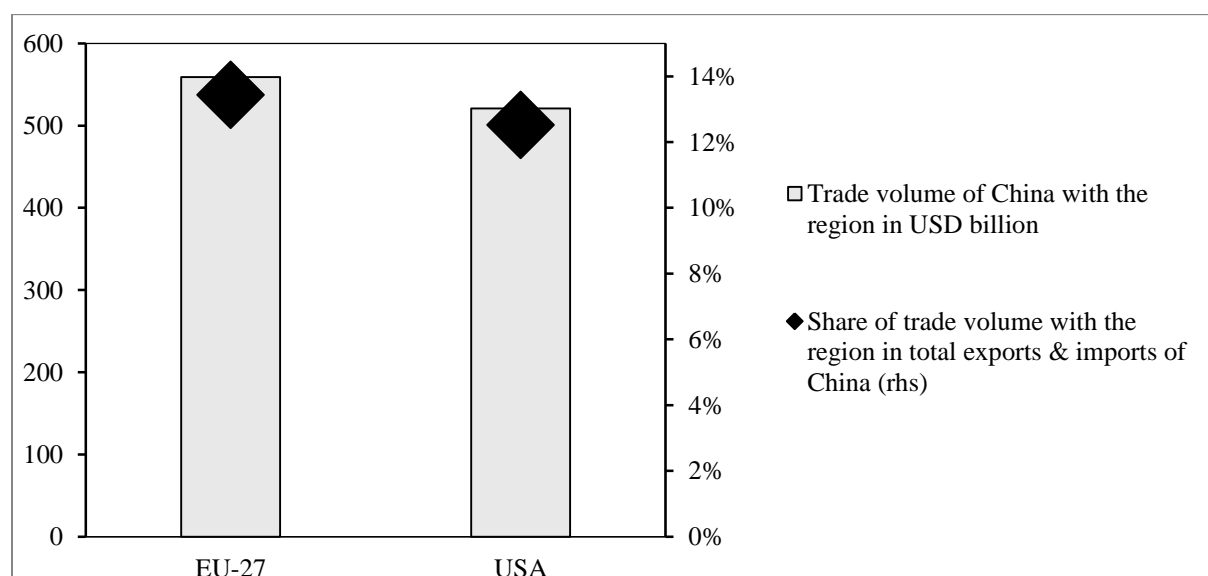
² TPP countries: Australia, Brunei Darussalam, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, Vietnam, and the USA.

published literature which focus on China's existing and possible FTAs. In Section 4, we analyze the empirical results of each scenario where China is affected by the realization or non-realization of the TTIP and TPP, and China's participation or non-participation to them. Section 5 concludes possible policy implications.

2. China's Trade Statistics and Latest Status in FTAs

The TTIP and TPP could divert trade from China. This study analyzes the effects of these initiatives under different scenarios and the TTIP is realized in all of them. The US is member of both initiatives, and the EU is member of TTIP which is realized in all of our scenarios. Since both are important trade partners for China, both of the agreements would affect Chinese economy. China's two largest trading partners are the EU and US consecutively, in 2013 (Figure 1). At the same time, they are two largest export markets. China's trade shares with EU-27 and USA are shown below.

Figure 1: Top trade partners of China (2013)



Source: Thomson Reuters Datastream

Table 1: Trade shares of China

	Share of export to the region in total export of China (%)		Share of import from the region in total import of China (%)	
	2004	2005-2013 average	2004	2005-2013 average
EU-27	18.1	18.7	12.5	11.7
USA	21.1	18.5	8.0	7.4

Source: Thomson Reuters Datastream

Besides trade statistics, analyzing China's existing and potential agreements is also of importance. Since the multilateral trade negotiations are deadlocked with the Doha round of

WTO, many countries have been working to form FTAs over the last decade. Likewise, China has been pursuing to form bilateral and regional FTA with various partners.

China is currently working on 17 FTAs of which 11 agreements were signed (Table 2). Apart from the existing ones, the agreements under negotiation are China-Gulf Cooperation Council (GCC)³ FTA, China-Australia FTA and China-Norway FTA. The agreements under consideration are China-India Regional Trade Arrangement Joint Feasibility Study, China-Korea FTA Joint Feasibility Study and China-Japan-Korea Joint Study.

Table 2: China's FTA partners and the dates of contracts

FTA partner	Date	FTA signed in	FTA entered into force in	Agreement on Trade in Goods signed in	Agreement on Trade in Services signed in	Agreement on Investment signed in
ASEAN		2002	2005	2004	2007	2009
Pakistan		2006	2007	-	2009	-
Chile		2005	2006	-	2008	Being negotiated
New Zealand		2008	2008	2008	2008	2008
Singapore		2008	2009	-	-	-
Peru		2009	2010	-	-	-
Hong Kong CEPA ⁴		2003	-	-	-	-
Macau CEPA		2003	-	-	-	-
Costa Rica		2010	-	-	-	-
Iceland		2013	-	-	-	-
Switzerland		2013	-	-	-	-

Source: China FTA Network

3. Literature

Among the studies which use the GTAP model, Petri, Plummer & Zhai (2011) finds that the TPP would increase the USA's GDP by 0.07% while China loses 0.09% of its GDP by 2025. The simulation results of Li & Whalley (2012) show that China will be hurt by the TPP initiative if she is excluded from TPP. On the other hand, they find that when China joins the TPP China's welfare and trade will increase by about 1.1% and 10% respectively under complete trade costs removal.

Estrada et al. (2012) estimated that China and ASEAN gains a 0.57% and 0.65% increase in output, 0.13% and 0.31% in welfare respectively, under ASEAN-China FTA. Kawasaki (2003) computes the effect of the FTA of ASEAN with Japan and China as a 3.7% increase in Chinese output. A study by the Joint Expert Group for Feasibility Study on East Asia Free Trade Area (2006) estimated the increase in China's income from joining the

³ GCC countries: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

⁴ CEPA stands for Closer Economic and Partnership Arrangement.

ASEAN+3⁵ FTA as approximately 1.7%. In terms of welfare impacts, the estimates of Lee et al. (2004), based on a dynamic CGE model, show that welfare changes for China are more favorable under the ASEAN+3 FTA (4%) than under ASEAN-China FTA (1.4%).

According to Sandrey & Jensen (2008), China and New Zealand gains a 0.01% and 0.30% increase in output, 0.00% and 0.53% increase in trade respectively, from an FTA between them. Swiss Chinese Joint Study Group (2010) finds that China and Switzerland gain a 0.0% and 0.2% increase in output, 0.1% and 0.7% increase in exports respectively.

Yoon, Gong, & Yeo (2009) show increments in the GDP of Korea, China and Japan by 2.5%, 0.6% and 1.0%, respectively, through the China-Japan-Korea FTA. In the same study, authors suggest that exports and imports of China rise by 6.0% and 8.6% as a result of the same FTA. The study of Siriwardana & Yang (2007) indicates that China gains increases in real GDP by 0.2%, in export volume by 0.7% and in import volume by 1.1% after Australia-China FTA.

4. Methodology and Empirical Results

In order to analyze the impacts of the TTIP and the TPP on China, GTAP network and Standard GTAP General Equilibrium Model set under the assumptions of perfect competition and constant returns to scale have been used. The dataset for the general equilibrium model is obtained from GTAP-7 Data Base covering 113 regions and 57 sectors and also related bilateral trade information, transport and protection linkages with reference year of 2004.

In this context, three main scenarios are set:

1. Only the TTIP is realized,
2. Both the TTIP and the TPP are realized and China does not participate in them,
3. Both the TTIP and the TPP are realized and China participates in the TPP.

These scenarios are developed in order to analyze economic impacts of these possible FTAs on Chinese economy. Under these three main scenarios, the possible FTAs have been deepened by differentiating scenarios using various shocks. In first sub-scenarios, whole custom tariffs including tariff equivalents and quotas between FTA partners have been removed. Since it is almost certain that the FTAs will cover not only removal of custom tariffs but also reduction in non-tariff barriers, the shock of reduction in non-tariff barriers is also used for the following sub-scenarios. The method of reduction in international trade costs between the FTA partners is adopted since it is expected that there would be easing in international trade due to cuts in non-tariff barriers and reduction in international trade costs would be observed. Accordingly, in second sub-scenarios, not only all tariffs have been removed but also non-tariff barriers have been reduced by 5% in services and 2% in other sectors similar to the study of Breuss and Francois (2011). As an alternative to second sub-

⁵ ASEAN+3 is a forum of ASEAN, China, Japan, and Korea.

scenarios, 5% reduction of non-tariff barriers in all sectors has also been applied in the third ones. Finally, non-tariff barriers in the exports of third countries to the FTA partners have been reduced according to the approach of direct spill-over effect of Francois et al. (2013) which introduces a cost reduction in exports to the FTA members as a result of harmonization of regulations. Given 20% of direct spill-over effect and 5% cost reduction in all sectors to cut non-tariff barriers, it is assumed that 1% cost reduction would arise in the exports of third countries to the FTA members.

As mentioned above, the first scenario is developed to observe the impacts of the TTIP agreement on Chinese economy. Simulation results related to the TTIP agreement between the EU and US are displayed in Table 3.

Initially, first sub-scenario in which whole custom tariffs including tariff equivalents and quotas between the EU and US have been removed as a result of the EU and US partnership suggests a decline in GDP by 0.17% and in export by 0.18%. In second sub-scenario including limited reduction in non-tariff barriers in addition to removal of tariffs, higher drops in GDP (0.40%) and export (0.39%) of China have been obtained. In the next sub-scenario, losses in variables reach their maximum by 0.67% in GDP and 0.69% in export. Finally, in the most comprehensive sub-scenario, falls in economic indicators diminish due to positive implications of spill-over effect to Chinese economy through easing in export of rest of the world including China to the EU and US.

Table 3: Scenario-1: The Impacts of TTIP on Chinese Economy

	GDP (% change)	Export (% change)
Removal of tariffs	-0.17	-0.18
Removal of tariffs and limited reduction in non-tariff barriers	-0.40	-0.39
Removal of tariffs and reduction in non-tariff barriers	-0.67	-0.69
Removal of tariffs, reduction in non-tariff barriers, and direct spill-over effects	-0.41	-0.25

Source: Author's calculation. Percentage changes in variables show deviations from the base period.

In order to investigate economic impacts of the TTIP and TPP simultaneously, second main scenario has been developed. Similar shocks like the ones in the first scenario have been applied and results of these simulations in Chinese economy are shown in Table.4. According to the obtained results, there could be loss in GDP up to 2.26% and in export up to 2.84%. As it is expected, damage in Chinese economy of two agreements would be higher than the damage of the TTIP alone.

Table 4: Scenario-2: The Impacts of TTIP and TPP without China on Chinese Economy

	GDP (% change)	Export (% change)
Removal of tariffs	-0.60	-0.82
Removal of tariffs and limited reduction in non-tariff barriers	-0.90	-1.16
Removal of tariffs and reduction in non-tariff barriers	-2.26	-2.84
Removal of tariffs, reduction in non-tariff barriers, and direct spill-over effects	-1.51	-1.58

Source: Author's calculation. Percentage changes in variables shows deviations from the base period.

Although China is not one of the TPP member countries, China's stance has been changed and she has shown an interest in becoming a member of the TPP according to recent developments. Therefore, in this last scenario, the economic results of the TPP with the participation of China together with the TTIP agreement have been investigated by using same shocks. Simulations results of this scenario are shown in Table.5. It is quite clear that participation of China in the TPP agreement brings positive changes in economic variables despite the obvious negative effects of the TTIP. In other words, positive impacts of participation of China in the TPP compensate negative impacts of the TTIP. After participation of China in the TPP, China could face gains in GDP by 2.44% and in export by 11.34%.

Table 5: Scenario-3: The Impacts of TPP with China and TTIP on Chinese Economy

	GDP (% change)	Export (% change)
Removal of tariffs	1.01	6.08
Removal of tariffs and limited reduction in non-tariff barriers	1.43	7.89
Removal of tariffs and reduction in non-tariff barriers	2.10	10.47
Removal of tariffs, reduction in non-tariff barriers, and direct spill-over effects	2.44	11.34

Source: Author's calculation. Percentage changes in variables shows deviations from the base period.

5. Conclusion

Globalization and rise in international trade as a result of technological developments and reduction in trade barriers have been promoting economic growth. To ensure the continuance of liberalizing the international trading system, alternatives to the multilateral trade are in progress. Among those arrangements, the TTIP and TPP may redefine global trading rules and have significant effects on global economies.

It is highly likely that these initiatives will cause considerable impacts on Chinese economy since both agreements are dominated by the USA and bypasses China. This study focuses on the impacts of the TTIP and TPP on Chinese economy under three scenarios. Different scenarios with respect to the realization of the agreements are studied as they are in progress and have not been finalized yet.

It is found that Chinese economy is negatively affected when only TTIP is realized and the decrease in Chinese GDP could be up to 0.7%. When both TTIP and TPP are realized and China is excluded, the combined damage in Chinese economy is higher than the damage of TTIP alone and the decrease in Chinese GDP could go up to 2.3%. Nonetheless, inclusion of China in the TPP while being excluded from the TTIP results in a %2.5 increase of Chinese GDP suggesting that positive impacts of participation of China in the TPP compensate for the negative impacts of the TTIP.

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